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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,289

04/05/2005

Tatsuya Igarashi

0649-1070PUS1

7753

2292 7590 02/10/2009
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EXAMINER

GARRETT, DAWN L

ART UNIT

PAPER NUMBER

1794

NOTIFICATION DATE

DELIVERY MODE

02/10/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/530,289	Applicant(s) IGARASHI ET AL.	
	Examiner Dawn Garrett	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 August 2008 and 19 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 and 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 17 and 22-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office action is responsive to the response to the election of species requirement received December 19, 2008 and to the amendment received August 11, 2008. In the claim amendment filed August 11, 2008, claim 9 was amended and claims 13-24 were added. Claims 1-24 are pending. In the response to the election of species requirement, applicant elected a pyrrole compound as the hole injection/transport compound species with traverse and a five-membered nitrogen-containing heterocyclic compound as the electron injection/transport compound species with traverse. No specific reasons for traverse were set forth. Claims 1-12, 17, and 22-24 read upon the elected species and are under consideration. Claims 13-16 and 18-21 are withdrawn as non-elected. (It is noted that claim 21 is directed to a hydrocarbon-based aromatic compound as an electron injection/transport material that is non-elected).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 23, it is unclear what is intended by “a plurality of *domain structures*”. It is not seen where the specification clearly defines the meaning or structure of a “domain structure”.

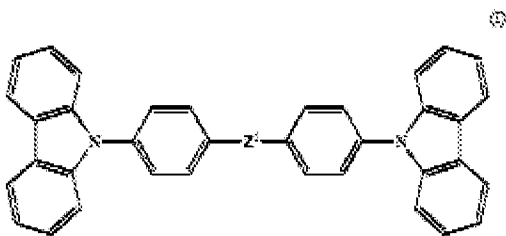
Accordingly, claim 23 is considered indefinite. Clarification and/or correction are required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

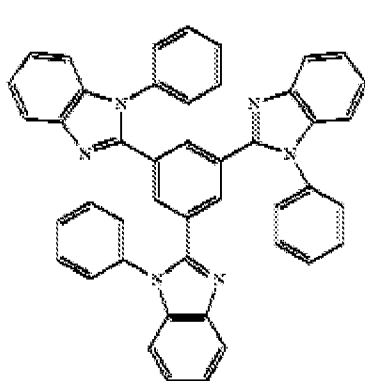
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-10, 12, 17, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 2002/0125818 A1). Sato et al. discloses organic electroluminescent devices comprising, between an anode and a cathode, a light emitting layer comprising a host material having an electron-transporting or hole-transporting property and a compound capable of phosphorescence (see abstract). Suitable host compounds include those according to general formula I (see par. 52), which include the more specific compound CBP (per claims 6-8):



Other host material includes electron transporting compounds such as TPBI per claims 9, 10 and 12 (see page 30, top of second column):

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TPBI

Sato et al. discloses a plurality of host materials may be used together (see page 30, par. 128).

Phosphorescent dopant may include iridium compounds such as Ir(ppy)₃ (see par. 134-150), which is a green-emitting compound per claim 24. Compounds CBP, TPBI and Ir(ppy)₃ are all within the parameters of those claimed by applicant and are used in the instant examples.

Accordingly, the compounds are considered to satisfy the properties set forth in the claims as they read upon the compounds disclosed by applicant. Although Sato et al. is silent with respect to examples showing a hole-transporting host and electron-transporting host used in combination according to the instant claims, it would have been obvious to one of ordinary skill in the art at the time of the invention to have formed a luminescent layer comprising a mixture of host materials and a phosphorescent dopant, because Sato et al. clearly teaches a plurality of host materials may be used together. With regard to claim 22, Sato et al. clearly teaches devices comprising organic material including an electron transport layer and hole transport layer (see par. 167). It is noted that claim 22 does not require any particular properties for “an electron injection/transport compound and a hole injection/transport compound” in claim 22 or that they are the same as in claim 1. With regard to claim 23, Sato et al. sets forth the formation of polychromatic displays (see par. 30, 36) and recognizes a display device may be formed from

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sub-pixels (see par. 24); additionally, the devices taught by Sato et al. (see figures) are multi-layered per “a plurality of domain structures”.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato et al. (US 2002/0125818 A1) in view of Ise et al. (US 6,962,755). Sato et al. is relied upon as set forth above. Sato et al. discloses organic electroluminescent devices comprising, between an anode and a cathode, a light emitting layer comprising a host material having an electron-transporting or hole-transporting property and a compound capable of phosphorescence (see abstract). Also, Sato et al. discloses a plurality of host materials may be used together (see page 30, par. 128). Sato et al. is silent with respect to specifically disclosing an electron-transporting host according to the formula set forth in claim 11, but does teach other azoles such as TPBI. Ise et al. teaches in analogous art compounds according to formula A-III (see col. 13) and more specifically compounds such as A-19 (see Table 1) as electron transporting material for an EL device. It would have been obvious to one of ordinary skill in the art to have selected the azole compounds taught by Ise et al. for the Sato et al. host material, because one would expect the Ise et al. electron transporting azole compounds to be similarly useful as an electron transporting material in the Sato et al. device.

Applicant claims a combination that only unites old elements with no change in the respective functions of those old elements, and the combination of those elements yields predictable results; absent evidence that the modifications necessary to effect the combination of elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a). *Ex Parte Smith*, 83 USPQ.2d at 1518-19 (BPAI, 2007) (citing *KSR*, 127 S.Ct. at 1740, 82 USPQ2d at 1396). Accordingly, since the

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applicant has submitted no persuasive evidence that the combination of the above elements is uniquely challenging or difficult for one of ordinary skill in the art, the claim is unpatentable as obvious under 35 U.S.C. 103(a) because it is no more than the predictable use of prior art elements according to their established functions resulting in the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for improvement.

Response to Arguments

7. Applicant's arguments filed August 11, 2008 have been fully considered but they are not persuasive. The Declaration under 37 CFR 1.132 filed August 11, 2008 is insufficient to overcome the rejection of the claims based upon Sato et al. US 2002/0125818 as set forth in the last Office action (mailed March 11, 2008) because:

With respect to Example 8, in applicant's Table 1, the results are not comparable to the other examples, because different amounts of the luminescent layer materials are used in example 8 versus the other examples. Furthermore, Example 1 comprises very specific amounts of very specific materials in the light emitting layer and very specific anode, hole injecting, hole transport, electron transport, and cathode materials whereas none of the claims are limited to these amounts or specific materials. It is submitted that the examples are not commensurate in scope with the breadth of the claims and accordingly, unexpected results have not been conclusively demonstrated. Unexpected results with respect to the claimed property relationship of luminescent layer materials have not been clearly shown. The inventive examples are not commensurate in scope with the more broadly recited claims.

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With regard to the Sato '818, applicant argues the reference has no examples in which two or more kinds of host materials are used in combination. The examiner notes that non-preferred embodiments can be indicative of obviousness (see *In re Lamberti*, 192 USPQ 278 (CCPA 1976); *In re Boe*, 148 USPQ 507 (CCPA 1976); *In re Kohler*, 177 USPQ 399 (CCPA 1973)), and a reference is not limited to working examples (see *In re Fracalossi*, 215 USPQ 569 (CCPA 1982)).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dawn Garrett/
Primary Examiner, Art Unit 1794